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ABSTRACT

This study guide was prepared to aid industrial cooperative training coordinators in the technical training phase of the carpet laying training program. The guide begins with a section related to carpet laying career guidance. Specific topics in the section include status of the occupation, working conditions, salary, qualifications, and future employment. The remainder of the guide is comprised of the following thirteen units of instruction: (1) Measuring and Planning, (2) Cutting, (3) Seaming, (4) Hand Sewing, (5) Rugs and Edge Finishing-Installation, (6) Installation of Tackless Strip, (7) Installation of Underlay, (8) Carpet Installation Procedures, (9) Installation of Foam Rubber Backed Carpet, (10) Commercial or Contract Installations, (11) Alternate Installation Procedures, (12) Carpeting Stairs, and (13) Miscellaneous Installation Problems. Each unit follows a typical format consisting of references, introduction, assignment, and check-up questions. An instructor's key for chapter tests and check-up questions is appended. (LRA)

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STUDY GUIDE FOR

CARPET LAYING

Coordinated with Burlington
Industries Carpet Workroom
and Installation Manual

A Resource Guide for
Industrial Cooperative Training Programs

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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FOREWORD

This is one in a series of directly related study guides for use with Industrial Cooperative Training programs. In the I.C.T. programs both generally related and directly related materials are taught in the in-school phase of the program. This study guide on Carpet Laying presents the basic foundation knowledge which must be put to practice on the job.

Thanks are expressed to all the instructors listed on the following page and to Lester G. Duenk and Robert P. Braden who coordinated the development of this study guide.

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PURPOSE OF THE GUIDE

This study guide was prepared to aid Industrial Cooperative Training coordinators in the directly-related phase of the carpet laying training program.

Related technical training in connection with practical experience is essential to the complete development of a full-fledged student worker. This related study should increase the trainee's knowledge of the basic operations and care of equipment used in carpet laying. It should teach the "whys" which will supplement the skill gained on the job.

Carpet laying is an occupation which requires highly developed skills and considerable technical knowledge of tools and equipment. Carpet laying work contributes directly to the beauty and permanence of the building industry as a whole. Therefore, the skill and techniques of the trade enhances the interior of any building more than other aspects of construction. It is essential that each student gain from this guide the basic principles of good design and workmanship needed for success in the carpet laying field.

CARPET LAYING CAREER GUIDANCE

STATUS OF THE OCCUPATION

"Carpet construction can no longer be considered as conventional or standard for a given type of weave. Basic carpet types have been so altered and modified for style and cost motives that there is no longer just one simple basic way to handle and install carpets. The combination of proper tools, accessories, techniques, plus the skill of an experienced carpet mechanic are needed to achieve satisfaction. The carpet mechanic needs to be both versatile and adaptable to cope with fabrics and circumstantial conditions to obtain acceptable results."[1]

WORKING CONDITIONS

The carpet mechanic has very good working conditions and hours, and is one of the better-paid skilled workers in the United States. Carpet laying is clean, indoor work where the flooring mechanic often finds air-conditioned buildings in the summer and almost always finds heated buildings in the winter. Because the work is performed indoors and the sale of carpet is steady, the carpet mechanic will find the work steady and unaffected by the seasons of the year.

The carpet mechanic usually works a regular day shift. In certain situations, however, such as carpet laying in a department store or a private home where both members of the family work, it may be necessary to work evenings or on weekends or holidays. This situation will probably not occur very often. There is, however, the possibility that the carpet mechanic will install carpet on the weekend for extra income. Not only is this very

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[1]Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

profitable, but it is very satisfying to install carpet for a friend or neighbor.

Pride in workmanship and personal satisfaction are just two of the many benefits in carpet laying. Other benefits as a carpet mechanic are: (1) You can get a good start with only a moderate investment; (2) Many of your supplies are furnished by your employer; (3) Carpet laying is a safe trade with very little chance of injury; (4) A brief training period gives you life-time opportunities; (5) A possibility of going into business for yourself; and, (6) Your services are very valuable to your employer.

SALARY

As a carpet mechanic, very good salaries are available. A U.S. Department of Labor survey of a limited number of firms showed that carpet mechanics were making from $5.50 to $11.25 per hour with starting salaries for apprentices and other trainees about three-fourths the salary for mechanics. This wage scale will, of course, vary with the area of the country and the degree of skill and degree of specialization of the individual.

Generally, there are five different ways in which a carpet mechanic is paid: (1) Hourly wages; (2) Salary; (3) Salary plus bonus system where the bonus is based on the store's profits or sales volume for the year; (4) Salary plus commission on sales; and, (5) Piece-work basis.

QUALIFICATIONS

To become a skilled carpet mechanic, you must develop much skill in the use of carpet tools, the matching of colors and the use of color schemes.

There are several ways to gain these skills. Some of the ways are as follows: (1) Vocational Schools; (2) Factory Training School; (3) Traveling Installation Schools; (4) Union Training Schools; (5) On-the-job Training; and, (6) Use of training books such as Burlington's Carpet Workroom and Installation Manual. A few of the basic qualifications necessary for success in the carpet laying profession are as follow: (1) Unusual skill in working with the hands; (2) Appreciation of color and design; (3) The ability to develop skill and craftsmanship; (4) A high school education; (5) Age of between 17 and 30 years; (6) Neat appearance; (7) Pleasant business-like manner; and, (8) Ability to get along with co-workers.

FUTURE EMPLOYMENT

The future is bright for carpet mechanics. More than 70,000 carpet layers were employed in the U.S. in 1978. Retirement and death alone are expected to create 550 jobs annually in addition to the new openings which will be created. The main reason for the expected increase in openings for carpet layers is the continued increase of construction.

As in any occupation, advancement depends upon skill and initiative; but after several years of experience, carpet mechanics can start their own business. No matter how one looks at it, the future of carpet mechanics is very bright.

CONCLUSION

In conclusion, the skilled craft of carpet laying offers the trainee or mechanic a very good lifetime occupation with clean indoor working conditions, a good salary, several different salary systems, and good

working hours. Choosing this occupation as a life's work is a step in the right direction for the person who can qualify and desires a secure future with a steady job, possibilities for advancement, and much personal satisfaction.

SUGGESTIONS ON THE USE OF SUPERVISED STUDY GUIDE

Study guides are designed for use in presenting related technical information (1) to groups of trade and industrial students with diversified vocational objectives, and (2) to heterogeneous groups in which the learning levels of individual students vary considerably. This guide is not intended to be a type of "correspondence" course, but should be used by students under the direct supervision of a related subjects teacher or teacher-coordinator.

You, as the student, can increase your learning if you follow this simple routine:

1. Begin by being sure you have the materials and references needed to complete the assignment.
2. Carefully read the introduction. It tells you what information is to be learned.
3. Study the words and figures. They both help you to understand the information you need to learn.
4. If you need help, ask your teacher or coordinator for it.
5. Read carefully the assigned pages in the reference book. Respond thoughtfully to all assigned questions and exercises.
6. Take each test carefully. If your answers indicate that you do not understand material covered, study it again until you have gained complete understanding.

UNIT 1: MEASURING AND PLANNING

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, knowledge of how to measure, plan, make scale drawings, determine pile direction, plan seams, and select proper underlay for carpets.

ASSIGNMENT: Read page 1 in the Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What type of measuring tool is recommended for gaining accuracy in measuring carpet?

2. What is a recommended paper for making drawings to scale?

3. How much should you overcut the carpet while allowing for irregularities?

4. Can figured and patterned fabrics be cut the same as plain fabrics?

5. Why is an accurate drawing needed to determine the amount of carpet and underlay required for the area?

TEST: UNIT 1-MEASURING AND INSTALLATION

True or False: In the blank to the left place "T" if the statement is true, "F" if it is false.

_____1. A short scale can be used to measure carpet correctly and quickly.

_____2. Check paper can be used to construct scale drawings.

_____3. Using plain fabric, three inches overcut will be adequate to allow for irregularities.

_____4. Detailed fabric can be cut in the same manner as plain fabric.

_____5. The location and planning of seams is very important.

_____6. Seams generally are planned to run in the opposite direction as the traffic.

_____7. Seams should be avoided in front of entrances or traffic pivot points.

_____8. The use of broad loom carpet will increase the need for more seams.

_____9. On stairs, the pile should lean down stairs.

____10. Pile should lay in the opposite direction as the flow of traffic.

____11. Carpet looks best when one looks directly into the pile.

____12. Underlay helps extend the service life of the carpet.

____13. Underlay will absorb and cushion the impact of footsteps.

____14. Hair felt underlay is preferred for small area installations.

____15. Dimensions on carpet underlay should always be double checked before cutting.

UNIT 2: CUTTING CARPET FOR INSTALLATION

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, knowledge of how to measure, mark, and cut carpet to a given size for installation.

ASSIGNMENT: Read pages 2 and 3, Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What tool is used to mark carpet before cutting?
2. What are the two basic types of cutting?
3. What tool is used for seaprating the carpet pile before cutting?
4. Explain the procedure for cross-cutting, face up.
5. Explain the procedure for cross-cutting, face down.

TEST: UNIT 2-CUTTING

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

_____1. The electric rotary shear is used with a plow adapter to prevent cutting of the pile when trimming the false selvedge.

_____2. When doing butt or cross cutting with the carpet face down, one would use scissors.

_____3. Side cutting with the carpet face down is done with a knife.

_____4. Loops that are unsevered when cutting the back side during side cutting are to be severed with scissors.

_____5. Pattern match is done by cutting with a knife and placing two pieces of carpet together and recutting, if necessary.

_____6. Butt or cross cutting with the carpet face down is done with a loop cutter.

_____7. The pattern match is marked with a chalk line before cutting.

_____8. Scissors are used to separate the pile before cutting carpet back when cutting with the face up.

_____9. Pattern matches are transferred from front to back of the carpet using an awl.

____10. When cutting carpet, the edge to be seamed is always favored.

____11. When doing face-up wide cutting, the carpet is folded back-to-back to break open the pile, thereby permitting clean cutting of the back.

_____12. A face cutter is used to cut along the line that is left by the omitted face yarn.

____13. Face down side cutting may be done with a face cutter.

____14. Face up butt or cross cutting is done with a back cutter.

____15. When side cutting with the carpet face down, one should be sure to cut through the pile as well as the back of the carpet.

UNIT 3: HOT MELT FACE-UP SEAMING

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, a knowledge of face-up seaming.

ASSIGNMENT: Read page 4 of Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What is the oldest method of seaming?
2. Describe the advantages of a hot-melt face-up seam.
3. Where is the hot-melt face-up seaming technique used?
4. What is the problem of a sewn seam without selvedge?
5. List six "dos" to remember in hot-melt face-up seaming.

TEST: UNIT 3-HOT MELT FACE-UP SEAMING

Completion: Fill in the blanks.

1. Seaming is not necessary in small and medium sized areas because _____ can be used.

2. Hot melt tape is heated to a temperature of _____.

3. Wrinkles in carpet are removed with a (an) _____.

4. Tacks are placed in the carpet at _____ intervals.

5. In positioning the hot melt tape, be sure that the tape is always at the center of the _____.

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

_____6. Tacks are placed about 3 to 4 inches on each side of the seam.

_____7. The iron should be glided along at approximately 6 feet per minute.

_____8. The iron is held in p ace until the clear color of the tape turns opaque.

_____9. Another mechanic should be available to roll the seam.

____10. If working alone, a sand bag can be used instead of a roller.

____11. The seam must cool at least 30 minutes before stretching.

____12. Seam cement is applied following the stretching operation.

____13. Constant pressure on the iron is necessary to insure a good seaming job.

____14. Peaked seams result from stretching before the hot melt tape is set.

____15. The use of hot melt tape should be avoided on rubber-backed carpeting.

UNIT 4: HAND SEWING

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, knowledge of the principles and procedures of hand sewing carpets.

ASSIGNMENT: Read page 5 of Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. Is it possible to hand sew every carpet?
2. Which fabrics are difficult to penetrate with a needle?
3. What kind of seams are too weak to withstand proper tension during the installation?
4. Why can cut pile fabrics produce "dirty seams"?
5. Why is it recommended to sew prior to taping across seams of multi-shot fabrics?

TEST: UNIT 4-HAND SEWING

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

_____1. In top sewing, the carpet is placed face up.

_____2. In top sewing, the stitches are kept approximately ½ inch apart.

_____3. In top sewing, when the thread is pulled tight, the edges should not be overlapped.

_____4. In top sewing, the stitches should be coated on the back with seam cement.

_____5. In top sewing, a straight needle is used.

_____6. In flat seam sewing, the two pieces of carpet to be sewn are turned face down.

_____7. In flat seam sewing, double thread and straight needle are used.

_____8. In flat seam sewing, the stitches are kept approximately 1/3 inch apart.

_____9. In flat seam sewing, seam cement is not necessary.

____10. In face to face sewing, a curved needle and single thread are used.

____11. In face to face sewing, some tufts should come through the seam to the back of the carpet.

____12. In face to face sewing, occasionally it may be necessary to reinforce the seam by reversing the stitches and coming back or cross stitching the seam.

____13. In sewing without selvedges, seam cement must be applied to edge prior to sewing.

____14. In sewing without selvedges, use three flat stitches per inch.

____15. In sewing without selvedges, sew from the back of the carpet.

UNIT 5: RUGS, EDGE FINISHING - INSTALLATION

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of the unit, the student will demonstrate on a test, a knowledge of procedures for the tape binding, serging and beveling of rugs.

ASSIGNMENT: Read pages 6 and 7, Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What is the purpose of pretreated cotton thread?
2. Why would a carpet installer moisten the edges of a carpet?
3. Compare the purpose of #23 and #25 serging needles.
4. Describe the procedure for beveling a rug.
5. List the equipment required for serging.

TEST: UNIT 5-RUGS, EDGE FINISHING - INSTALLATION

Completion: Fill in the blanks

1. Most cotton thread is _____with_____.
2. _____or _____is used to moisten carpet edges.
3. _____is a less expensive method of edge finishing.
4. For double back or other similar heavy back carpets, use number_____ needles.
5. Narrow tape binding is a _____step operation.
6. Foam rubber backed carpets should be beveled with a portable beveler set at about a (an)_____angle before binding.
7. The raw edge of the fabric should be protected from_____and _____by a binding.

List the seven procedures to follow when installing carpets.

1.
2.
3.
4.
5.
6.
7.

UNIT 6: INSTALLATION OF TACKLESS STRIP

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, a knowledge of the different methods of installing a tackless strip on various floor types.

ASSIGNMENT: Read pages 8-10 of Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS

1. Describe the method of installing the strips when working with a wood or a plywood floor.
2. What is the best way to determine if strip cement can be used on a concrete floor?
3. Describe the four steps to use when applying strip cement.
4. Describe two methods of removing strip cement from tools and floors.
5. Describe the method of locating heating pipes which are beneath radiant heated floors if no floor plan is available.

TEST: UNIT 6-INSTALLATION OF TACKLESS STRIP

Completion: Fill in the blanks

1. Three types of nails to use on a wood floor are: _____, _____, and _____.

2. The method of providing a nailing base for poor quality concrete floors is called _____.

3. Another name for strip cement is _____ cement.

4. The temperature of a concrete floor must be between _____ and _____ before cement can be used.

5. Two less common ways of installing tackless strip are using _____ and _____.

Matching: Select the identifying letter from the statements in the right hand column which matches best with the descriptions in the left hand column. Place in the blanks to the left. Use each item only once.

6. _____Distance of strips from wall
7. _____Spacing of nails
8. _____Oil wax, and paint
9. _____Removal of hardened cement
10. _____Cleans uncured cement from tools

A. 3-4 inches
B. Xylol and other commercial strippers
C. Chipping and melting
D. Alcohol
E. 2/3 of carpet's thickness
F. Use wet mop
G. 1/2 inch

Multiple Choice: Place a circle around the identifying letter of the best selection.

11. Strip cement usually covers:
    a. 50-150 ft. per gallon
    b. 150-250 ft. per gallon
    c. 200-350 ft. per gallon
    d. 300-450 ft. per gallon

12. Normal curing time for strip cement is:
    a. 8-10 hours
    b. 15-20 hours
    c. 24 hours
    d. 36 hours

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13. When using concrete nails to secure the strip to a concrete floor:
    a. Use a heavy hammer with a minimum of blows.
    b. Use a light hammer with numerous blows.
    c. Work slowly to insure perfection.
    d. Space nails every 12 inches.

14. The length of strips used on an uneven concrete floor should usually be:
    a. 10-12 inches
    b. 8-12 inches
    c. 4-6 inches
    d. 6-8 inches

15. Select the poorest statement with regard to floor preparation and epoxy resin cement:
    a. Temperature of floor should be at least 32 degrees.
    b. Xylol is a good material to clean off old wax and paint.
    c. Concrete must be cured for at least 24 hours.
    d. Mixed epoxy cement must be used within one hour.

UNIT 7: INSTALLATION OF UNDERLAY

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, a knowledge of how to lay and fasten an underlay on either wood or concrete floor, and fit and trim an underlay until it lays wrinkle-free upon the floor.

ASSIGNMENT: Read page 11 in the Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What two conditions must be met when properly installing an underlay?
2. What types of fastenings may be used to affix the underlay to the floor?
3. Describe how to install underlay on a concrete floor.
4. What type of underlay should be used with hot melt seams?
5. Moderate or severe wrinkling requires what types of corrective actions?

TEST: UNIT 7-INSTALLATION OF UNDERLAY

Multiple Choice: Place a circle around the identifying letter of the best selection.

1. How far from the seams should each cut be stapled, when the underlay is installed on wood floors?
   a. 1 - 2 inches
   b. 2 - 3 inches
   c. 3 - 4 inches
   d. 4 - 5 inches

2. What type of underlay should be both stapled and taped?
   a. Wood
   b. Foam
   c. Hair
   d. Hardboard

3. How is an underlay fastened to a cement floor?
   a. Impact nails
   b. Hot seams
   c. Adhesive
   d. Elmer's Glue

4. What type of underlay should NOT be used on a hot melt seaming job?
   a. Sponge rubber
   b. Hair
   c. Hair-felt padding
   d. Felt

5. What precaution should be taken when installing an underlay on a concrete floor that is in a "commercial" or heavy traffic area?
   a. The tackless installation method should be used.
   b. The underlay should be cemented with adhesive over the entire area.
   c. Hair or felt padding will hide the seam.
   d. A hot seam should be laid first.

6. Why is the hot melt seaming method sometimes used in underlay installation?
   a. It is the quickest method available.
   b. It is the least expensive method available.
   c. The seam is flat and less visible.
   d. It is more permanent.

7. What is the aim of underlay installation?
   a. To provide a soft area to walk on
   b. To protect the floor
   c. To prevent carpet slippage
   d. To prevent wrinkles

8. How are rubber underlays, without a paper or scrim backing, seamed?
   a. Elmer's Glue
   b. Taped and stapled
   c. Studs
   d. Epoxy resin

9. How close is the underlay fitted to the tackless strip?
   a. 1/8 inch
   b. 3 inches
   c. 1/2 inch
   d. 1 inch
   e. 2 inches

10. What special treatment should be given to underlay seams when carpet is being installed on a concrete floor?
   a. Counter-rolled
   b. The seams are cemented to the floor.
   c. The seams are held with a tackless strip.
   d. They are overlapped and glued.

11. How can slight wrinkling of the underlay be remedied?
   a. Power stretcher
   b. Counter-rolling
   c. Steam
   d. Smoothing and stapling

12. What advantage does hair padding have over rubber padding when used on the hot melt seaming job?
   a. It absorbs the tape and hides it.
   b. It does not pucker as badly when heated.
   c. It will not stretch.
   d. It slides easier.

13. When is the perimeter of the underlay cemented to the floor?
   a. Only in cases of severe puckering
   b. When installed on concrete floors
   c. When counter-rolling will not work
   d. When installed on wood floors

14. Why are foam rubber underlays usually taped and stapled at seams?
   a. Hot melt seaming will melt the foam.
   b. Tape alone is too weak.
   c. The tape resists the tearing of the foam rubber and prevents the staple from pulling through.
   d. To prevent wrinkles

15. What is the best method for installation of a smooth underlay?
   a. Teamwork
   b. Use of a knee kicker and stapler
   c. Use of a power stretcher
   d. Use of Ramsett power tool

UNIT 8: CARPET INSTALLATION PROCEDURES

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of the unit, the student will demonstrate on a test, a knowledge of tool use in carpet installation, basic principles of fitting, stretching and finishing and assessment of the completed job.

ASSIGNMENT: Read pages 12-16 of the Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. Name two things to do in preparing carpet for installation.
2. What are the proper procedures in installing home carpeting?
3. What are the proper procedures for fitting?
4. What are the proper steps in stretching?
5. Explain the proper finishing techniques.

TEST: UNIT 8-CARPET INSTALLATION PROCEDURES

Short Answer: Respond to the following questions.

1. What causes puckering or buckling of carpet?

2. List three principal factors of puckering or buckling.

3. What is the best way to determine the quality of the job, in relation to the carpet's tautness?

4. Define stretch.

5. List twelve tools and materials which are basic requirements for a carpet mechanic's tool kit.

6. How can the filling, stretching and hooking of the carpet be made easier?

7. How much stretch would be anticipated for a 40 ft. piece of carpet stretched at 3%?

8. How much water should be used when wetting the carpet for stretching purposes?

9. What will be the result if carpet is wetted but not installed the same day?

10. In measuring carpeting, it is good practice to add _____ inches more to both the width and length than the dimensions actually require.

11. When choosing a marking chalk, it is always good to choose one that has both a color which is easily discernable from the carpet and _____.

12. What should be done if the carpet has a stiff back?

13. When is the stretching procedure complete?

14. After the stretching is complete: (a) What should be done next? (b) What tool(s) should be used?

15. What should be done when trimming the carpet to make sure that the woodwork underneath is not marred?

UNIT 9: INSTALLATION OF FOAM RUBBER BACKED CARPETS

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of the unit, the student will demonstrate on a test, knowledge of the procedures for installing foam rubber backed carpets.

ASSIGNMENT: Read page 17, Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. In what condition should the floor be prior to installing carpet?
2. Describe how you would remove the false selvedges.
3. Describe how to seal the edges of adjoining carpets.
4. What method is used to gain good adhesion of freshly installed carpet?
5. Explain the purpose of striking a starting line before installing a carpet.

TEST: UNIT 9-INSTALLATION OF FOAM RUBBER BACKED CARPET

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

1. _____Lees Texloc multi-purpose cement will adhere to concrete floors.

2. _____A gallon of Texloc cement will cover 20 square yards.

3. _____Setting time of Texloc cement is one to two hours.

4. _____Texloc cement has a water base.

Short Answer: Respond to the following questions:

5. List four characteristics which a good multi-purpose carpet cement should have.

6. List four pieces of equipment needed for installing foam rubber backed carpeting.

7. What material is used to fill cracks in floor prior to installation?

8. How are separate cut pieces of carpet identified before installation?

9. How would you remove the false selvedges?

10. How would you seal the edges of adjoining carpets?

11. What is the purpose of striking a starting line before installing a carpet?

12. What should be the condition of the floor before the carpet is installed?

13. Define the term "knee kicker".

14. Explain the system used to eliminate air-pockets when installing rubber backed carpets.

15. Explain how to protect carpet edges at doorways.

UNIT 10: COMMERCIAL OR CONTRACT INSTALLATION

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of the unit, the student will demonstrate on a test, knowledge of commercial and contract carpet installation procedures.

ASSIGNMENT: Read pages 18-20 in Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What are the requirements of commercial carpet installation?

2. Why should a manufacturer be consulted about a product?

3. What is the corrective procedure of restretching carpeting?

4. List the equipment and materials required for commercial or contract installation.

5. Explain the techniques of cross seaming.

TEST: UNIT 10-COMMERCIAL OR CONTRACT INSTALLATIONS

Short Answer: Respond to the following questions.

1. What type of equipment is needed in addition to typical home installation equipment?

2. Dragging and hauling of new equipment over carpet may cause what condition?

3. Explain how to protect new carpet from damage due to movement of heavy equipment.

Matching: Select the identifying letter from the statements in the right hand column which matches best with the descriptions in the left hand column. Place in the blanks to the left. Use each item only once.

4. _____	Used to remove false selvedges from edges	A. cement
5. _____	The starting point of seaming	B. middle
6. _____	Technique used for cross seam fitting	C. loop cutter
7. _____	Used to treat all cut edges with a substance to prevent ravelling	D. board
		E. 6 to 8 feet
8. _____	Used to fit carpets around columns	F. square
9. _____	The dimensions of marks on every entire seam	G. sewn face down
10. _____	Used to aid in the process of laying seam for a carpet.	

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

11. _____ The entire stretch should be obtained in a single quick motion.

12. _____ Stretchers can be placed back of one another on large spans and used for stretching a section.

13. _____ The pins of tackless stripping should face in the direction of the stretch.

14. _____ A brush is used to apply seam cement to the seam.

15. _____ Sufficient excess should be allowed on all sides of a cut-out for a column.

UNIT 11: ALTERNATE INSTALLATION PROCEDURE

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of the unit, the student will demonstrate on a test, a knowledge of: (a) the installation of the carpet by width and (b) the use of the stretcher and regular installation tools.

ASSIGNMENT: Read page 21 in Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. When stretching the carpet by width, where is the head of a power stretcher placed?

2. In what direction is tension applied, once the carpet is unrolled and hooked onto the tackless stripping?

3. Describe the "face-up" seaming method used to join two rolls of carpet.

4. When and where is the line drawn which indicates the filling stretch which has been gained?

5. How long should the seams be allowed to dry?

TEST: UNIT 11-ALTERNATE INSTALLATION PROCEDURE

Multiple Choice: Place a circle around the identifying letter of the best selection.

1. When the recommended amount of stretch is gained, where is the carpet tacked to the floor?
   a. Immediately behind the head of the stretcher
   b. On the base line
   c. On either of the seams
   d. On the outside edge

2. When the carpet has been hooked to the tackless strip, in which direction is tension applied?
   a. Across the width
   b. Toward the stretcher
   c. In the direction of the warp
   d. Across the breadth

3. When is the carpet installed by width alone?
   a. In hallways
   b. Only when unavoidable
   c. On stairways
   d. In large areas like theatres or conference rooms

4. What is installation by width?
   a. A continuous underlay method
   b. A less expensive installation procedure
   c. The use of a power stretcher to assure alignment
   d. Stretching and seaming each individual breadth of carpet to the other

5. When is warp stretch gained?
   a. After entire width stretch
   b. Before breadth stretch
   c. Just after the tackless seam is nailed
   d. After half of width stretch

6. How are two rolls of carpet joined during width installation?
   a. Taped and stapled
   b. Heat tape
   c. The face up seaming method
   d. Adhesive

7. When is "filling stretch" measured?
   a. On the first width
   b. On the last width
   c. On the next to the last width
   d. On the second width

8. When approximating the amount of stretch in the warp direction, where are the measure lines drawn?
   a. On carpet, along walls and ends
   b. From the stretcher head
   c. From the tackless strip
   d. On the floor

9. As the wall is approached, what precaution must be observed?
   a. Overlap of the underlay
   b. Loosen the tackless strip and stretch to line on floor
   c. Apply more adhesive
   d. Keep stretching, using tackless strip

10. Once a width has been stretched, how is proper warp stretch assured?
   a. By taping and stapling
   b. By careful initial installation
   c. By heat tape
   d. By restretch of length

11. When is the power stretcher removed?
   a. After the tackless strip is installed
   b. When each seam is complete
   c. After tacking is complete
   d. Prior to tacking

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

12. _____Width installation is the best method available.

13. _____Stretch tension is removed while seams are still wet.

14. _____If the job is interrupted during tacking the stretcher is left in position.

15. _____Sometimes two or more rows of tacks are needed to hold stretch.

UNIT 12: CARPETING STAIRS

REFERENCES: Burlington Industries, Inc., Carpet Division. Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon the completion of the unit, the student will demonstrate on a test, a knowledge of the correct procedures for stair covering.

ASSIGNMENT: Read pages 22-23 of the Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. Explain the proper method of measuring stair carpeting.
2. Explain the proper method of cutting stair carpeting.
3. Explain how tackless stripping and padding are installed on stairs with a margin on both sides of the carpeting.
4. Explain how tackless stripping and padding are installed on stairs with full width carpeting.
5. Explain how tackless stripping and padding are installed on stairs with full width through and outside the balustrade, over the step ends.

TEST: UNIT 12-CARPETING STAIRS

Short Answer: Respond to the following questions.

1. How should a stairway be measured?

2. How can you check your figures on a straight stairway?

3. What measurements should be taken on angular or spiral stairways?

4. Describe measurement for suspended stairs.

5. How much extra measurement should be allowed for tucking the ends behind the tackless strip?

6. On a straight stairway, how much should be allowed for shifting the carpet when wear becomes apparent?

7. What is likely to happen if the back of the carpet is not placed on top of the template?

8. In which direction should the pile point on stairs?

9. Name four different stair designs which are carpeted.

10. When carpeting with a margin, what should be the space between the tackless strip on the riser and tread?

11. Explain how to use tackless strip on suspended stairs.

12. What can be used in place of tackless strip?

13. Where is the padding placed when using the shoelace method?

14. What can be done to make the installation easier and to obtain a better fit?

15. What should be done if the edge of the carpet is unfinished or not bound?

UNIT 13: MISCELLANEOUS INSTALLATION PROBLEMS

REFERENCES: Burlington Industries, Inc., Carpet Division, Carpet Workroom and Installation Manual, 1978.

INTRODUCTION: Upon completion of this unit, the student will demonstrate on a test, a knowledge of potential carpet installation problem areas and explain corrective measures.

ASSIGNMENT: Read page 24 in the Carpet Workroom and Installation Manual. Answer the following questions.

CHECK-UP QUESTIONS:

1. What may happen when new carpet adjoins older carpet already in use?
2. What problems could be encountered in covering a concave-shaped auditorium or theatre floor?
3. What effect does doorway traffic have on the carpet edge?
4. How would a carpet crease be removed?
5. How should carpet exposed to flood water be treated?

TEST: UNIT 13-MISCELLANEOUS INSTALLATION PROBLEMS

Completion: Fill in the blanks.

1. Wet carpet should be taken to a carpet cleaner immediately so the carpet may be quickly dried to avoid _____ and _____.

2. A _____ is made to protect the carpet edge from doorway traffic.

3. Fastening of a tackless strip in a limited access area can be done easily by using _____.

4. When working on inclined or concave floors, it is important to divide the area into sections so that the stretched carpet stays in contact with the _____.

5. By increasing the _____ in heavy traffic areas, the wear spot where the tackless strip is placed on adjoining carpet, can be avoided.

6. The correct procedure to remove a crease is to _____.

7. When making a cutout in newly installed carpet, the area around the cutout should be _____ before cutting.

True or False: In the blank to the left, place "T" if the statement is true, "F" if it is false.

_____8. New and in-use carpets, as long as they are the same brand, are considered the same and require no special attention during installation.

_____9. If a cutout in new carpet is to be permanent, the opening should be boxed in with tackless strips to hold the carpet in place.

____10. Inclined or concave floors are frequently found in auditoriums and theaters.

____11. In toe space areas, strip cement may be used instead of tackless strips.

____12. Carpet edges require no special attention as long as the carpet is of high quality.

____13. When removing creases, the carpet should be dried, face up.

____14. By placing waxed paper over seam cement and using a heated iron, a grease stain can be easily removed.

____15. Once carpet has been exposed to flood waters, it should immediately be rolled tight to squeeze out the water and unrolled after it is dry.

INSTRUCTOR'S KEY FOR

STUDY GUIDE FOR

CARPET LAYING

INSTRUCTOR'S KEY FOR CHAPTER TESTS AND CHECK-UP QUESTIONS

ANSWER TO CHECK-UP QUESTIONS

UNIT 1: MEASURING AND PLANNING

1. 100 foot steel tape.
2. Check paper.
3. 3 inches
4. No, more has to be allowed for figured and pattern fabrics because of matching.
5. An accurate drawing assists in selecting the proper width, placement of seams, and generally gives a better understanding of how to do the job.

INSTRUCTOR'S KEY TO TEST

UNIT 1: MEASURING AND PLANNING

1. False
2. True
3. True
4. False
5. True
6. False
7. True
8. False
9. True
10. False
11. True
12. True
13. True
14. False
15. True

ANSWERS TO CHECK-UP QUESTIONS

UNIT 2: CUTTING

1. A chalk line

2. Side cutting and butt or cross cutting

3. An awl

4. A. Strike straight chalk line, follow with rotary cutters.
   B. Strike straight line and cut with sharp knife.
   C. Strike straight line and cut with scissors.
   D. Place face cutter between two rows and cut (form a path by opening up loops).
   E. Open up path with awl and cut with scissors.

5. A. Strike straight line on back, cut with sharp knife.
   B. Strike chalk line on back, cut through back only. Separate cut edges and cut through unsevered loops with scissors. Turn carpet face-up and trip loops to a height a little lower than normal pile height.
   C. Cut between the groups of filling across warp.
   D. Cut, using a back cutter, between two wires.
   E. Strike a straight line and cut through the back only, following the line.
   F. Cut a long straight edge.
   G. Match fabric, face up. Mark fabric with match points, using awl. Cut fabric between marks.
   H. Match fabric, face up, using awl. Cut carpet through back only. Separate cut edges and cut through severed loops.

INSTRUCTOR'S KEY TO TEST

UNIT 2: CUTTING

1. True
2. False
3. True
4. True
5. False
6. False
7. True
8. False
9. True
10. True
11. True
12. True
13. False
14. False
15. False

ANSWERS TO CHECK-UP QUESTIONS

UNIT 3: HOT MELT FACE-UP SEAMING

1. The oldest method of seaming is sewing by hand.

2. Tufted, heavily latexed, double backed carpets have made hand sewing more difficult. Furthermore, many of the new fabrics do not have a selvedge, and sewing them is impractical. Taped seams are practically invisible and stronger.

3. Almost solely at the installation site

4. A sewn seam without selvedge is weak and usually without sufficient strength to withstand stretching.

5. A. Use hot melt tape only on fabrics for which it is recommended.
   B. Always fit and pre-tack the seam.
   C. Set iron temperature at 425 degrees F.
   D. Leave hot iron in contact with adhesive for about 10 seconds only.
   E. Move iron forward 4 to 8 feet per minute.
   F. Use flat object wider than seam width to press down carpet into the hot melt.

INSTRUCTOR'S KEY TO TEST

UNIT 3: HOT MELT FACE-UP SEAMING

1. Broadloom Carpet
2. 425 degrees F.
3. Knee Kicker
4. 6"
5. Seam
6. False
7. False
8. False
9. True
10. True
11. False
12. True
13. False
14. False
15. True

ANSWERS TO CHECK-UP QUESTIONS

UNIT 4: HAND SEWING

1. It is possible to hand sew every carpet, but it may not always be practical.

2. Heavily sized fabrics, tightly woven fabrics, and fabrics that contain double backs are difficult to penetrate with a needle.

3. Seams resulting from sewing of carpets without selvedges, in most instances, are too weak to withstand proper tension during the installation.

4. Cut pile fabrics can produce "dirty seams," because the pile is pulled down by the stitch and reflects the light differently. This is particularly true on carpets of lighter shades.

5. The stitches lock in the top shot and prevent the seam from raveling and sprouting.

INSTRUCTOR'S KEY TO TEST

UNIT 4: HAND SEWING

1. True
2. False
3. True
4. True
5. False
6. True
7. True
8. True
9. False
10. False
11. False
12. True
13. True
14. False
15. True

ANSWERS TO CHECK-UP QUESTIONS

UNIT 5: RUGS, EDGE FINISHING-INSTALLATION

1. The thread is pretreated so that the lubricant will help cool the needle and prevent latex accumulation.

2. It is important to moisten the carpet and allow adequate time for the moisture to be absorbed so that during the final binding, the carpet will be more pliable to work with.

3. For conventional or light weight fabrics, use a number 23 needle, For double back or other similar heavy back carpets, use a number 25 needle.

4. The pile is trimmed around the edges either by scissors or with an electrically operated beveler which has been set to the desired angle. The cut edge should be reinforced by coating one inch of the under side of that edge with seam cement or similar adhesive.

5. 81-60 Singer Serger-Needle (81 x 5 x 25) or (81 x 5 x 26) or (24 x 1 x 25)
   Model 159-3 Singer Serger-Needle 124-8 (chrome)
   Karpet King Serger-Needle (75 x 1), Size 23
   Looper Thread - 20/4 cotton

INSTRUCTOR'S KEY TO TEST

UNIT 5: RUGS, EDGE FINISHING-INSTALLATION

I. Fill in the blanks:

1. Pretreated, peanut oil
2. Water, silicone spray
3. Beveling
4. 25
5. One
6. 60%
7. Wear, raveling

II. Rug installation procedure list.

1. Clear the center of the room in which the rug is to be installed.
2. Place underlay into the space previously cleared and re-roll starting at both ends working toward the center. Leave some space between the rolled up portion of the underlay.
3. Roll up the rug in the same fashion. Place it on the underlay in the space between the rolled up portion of the underlay.
4. Unroll more underlay together with the rug, checking that both are centered an square with the walls of the room.
5. Place furniture on center portion of the underlay and rug.
6. Unroll remaining portion of the underlay and rug.
7. Push furniture away from the center into position, smoothing out the rug and putting some tension on it.

ANSWERS TO CHECK-UP QUESTIONS

UNIT 6: INSTALLATION OF TACKLESS STRIP

1. Set the strip on the floor and use 3d lath nails or 1 inch wire nails, spaced every 4 inches. Place nails slightly off-center towards the wall side. With plywood floors, use resin or cement coated nails. After installation, check for holding strength. If insufficient, use more or longer nails or add another strip.

2. Strike the floor with a sharp blow from a claw hammer. If the floor does not chip or crumble, strip cement can be used.

3. a. Apply a generous amount of cement, 1/2" from the wall. Spread to approximate width of strip using a putty knife or small spatula.
   b. Place the strip about 1/4" from intended position and slide or rock it into place.
   c. Clean tools immediately with alcohol.
   d. Let the floor dry for 24 hours.

4. Before setting, wipe with alcohol. Be sure that there is no flame or sparks nearby. When dry, chip with chisel or melt with blowtorch. Caution aginst starting a fire must be exercised.

5. a. Turn on heat.
   b. Adjust thermostat to a high setting.
   c. Lightly wet floor with damp mop.
   d. Areas where pipes are located will dry faster than other areas. Mark these dried areas with chalk.

INSTRUCTOR'S KEY TO TEST

UNIT 6: INSTALLATION OF TACKLESS STRIP

1. 3d lath, 1 inch wire, resin or cement coated
2. drill and plug
3. epoxy resin
4. 50 degrees, 90 degrees
5. studs, brackets
6. E
7. A
8. B
9. C
10. D
11. C
12. C
13. A
14. D
15. A

ANSWERS TO CHECK-UP QUESTIONS

UNIT 7: INSTALLATION OF UNDERLAY

1. Wrinkle-free and fastened to the floor

2. Staples, tape, adhesive, and tacks

3. A. Use talc or powdered starch to increase the slip of the rubber underlay.
   B. Use adhesive to fasten underlay to the floor.
   C. Areas subject to heavy or commercial use should be cemented over the entire area.

4. Hair or hairfelt padding

5. Relaying or replacement with patches of the wrinkled area

INSTRUCTOR'S KEY TO TEST

UNIT 7: INSTALLATION OF UNDERLAY

1. C
2. E
3. C
4. A or C
5. B
6. C
7. D
8. B
9. A
10. B
11. D
12. A
13. B
14. E
15. D

ANSWERS TO CHECK-UP QUESTIONS

UNIT 8: CARPET INSTALLATION PROCEDURES

1. a. Wet the back of the carpet before installation.
   b. Have the correct measurement.

2. a. Add 2-3 inches more than the dimensions required.
   b. Do the cutting and seaming on location.
   c. Make the seams and then install the tackless stripping and underlay.
   d. After seams have cured, proceed with the fitting, stretching, and finishing.

3. a. Select a starting corner(usually the corner formed by the two longest or straightest walls).
   b. Rough in the carpet (pull and kick the carpet toward the opposite corners).
   c. Excess carpet should be allowed to creep up those walls.
   d. Fit and fasten carpet on pins of the tackless strip in your starting corner, then two feet along the adjoining corner.
   e. Refer to measurements on a specific table or chart (example, Page 14).
   f. Measure for warp stretch, mark with chalk every 2-3 feet.

4. a. Power stretch the warp until the chalk line is behind the tackless strip.
   b. Repeat (a) in each direction.
   c. If the carpet has a stiff back, tuck the carpet behind the pins with a spreader.
   d. After chalk mark is behind pins, press carpet with the spreader onto the pins of tackless stripping, while releasing the stretcher.

5. a. Trim carpet edge with sharp knife or a smooth edge trimmer.
   b. A sharp knife should be used for corners, curves, and short cuts.
   c. To make certain the woodwork is not scored, space the spreader between the carpet and wall before cutting.
   d. Tuck the edge of a carpet into the space between the tackless strip and the wall.

INSTRUCTOR'S KEY TO TEST

UNIT 8: CARPET INSTALLATION PROCEDURES

1. Carpet expansion in a limited space

2. Humidity , temperature, use

3. The knowledge that the installer has applied the recommended amount of stretch both in warp and filling directions.

4. The number of inches gained

5. Power stretcher, knee kicker, smooth edge trimmer, seam cement, seaming tape, spreader, tackless stripping, putty knife, staples, stapling hammer, six foot steel tape, T-square, folding rule, 50-foot tape measure, pipe wrench, screwdriver, awls, hacksaw, needles, carpet thread, tweezers, beeswax, chalk, ankorite tool, thimbles, chalk line reel, pinch bar, nap shears, carpet knife, reverse curved knife, stanley utility knife, whetstone, tackless strip shears, pliers, claw hammer, carpet hammer, carpet shears, nails and tacks

6. By wetting the carpet

7. 14 3/8 "

8. One half pint per square yard

9. It may shrink and become more difficult to stretch the required amount.

10. Two to three inches

11. Easily removable from the face of the carpet

12. Tuck the carpet behind the pins with the spreader.

13. When the chalk line is behind the pins

14. a. The carpet edge is trimmed.
    b. A sharp knife or a smoothedge trimmer

15. Place the spreader between the carpet and wall before cutting.

ANSWERS TO CHECK-UP QUESTIONS

UNIT 9: INSTALLATION OF FOAM RUBBER BACKED CARPETS

1. The floor should be clean, and free of any foreign matter. Cracks should be filled and made smooth.

2. Make a path for the cutter with a screwdriver or some similar instrument prior to making the cut. Remove the false selvedges by trimming with a Texloc cutter.

3. Insert Texloc edge sealer into the crack of the seam so that the heel of the sealer runs between the edges of the adjacent cuts.

4. The carpet should be pressed to the floor with a roller similar to that used for hard surface coverings, or a push broom.

5. A starting line should be made through the space to be covered with carpet. This starting line should be placed at a carefully considered place to make the best use of the yards of carpet supplied for the job.

INSTRUCTOR'S KEY TO TEST

UNIT 9: INSTALLATION OF FOAM RUBBER BACKED CARPETS

1. True
2. False
3. False
4. True
5. Water resistant, non-flammable, water base, not damaged by freezing
6. Texloc cutter and edge sealer, Texloc multi-purpose cement paste, spreader, carpet roller (or push broom)
7. Plaster
8. Identify each cutting with chalk or crayon in the order it is to be installed.
9. Make a path for the cutter with a screwdriver of some similar instrument, then remove the false selvedges by trimming with a Texloc cutter.
10. Insert the sealer into the crack of the seam so that the heel of the sealer runs between the edges of the adjacent cuts.
11. The starting line should be placed at a carefully considered place to make the best use of the yards of carpet supplied for the job.
12. The floor should be clean, smooth and free of any foreign matter, cracks should be filled and made smooth.
13. A knee kicker pushes or "kicks" the carpet into position.
14. After a strip of carpet has been spread and laid it should be pressed to the floor with a roller or a push broom, this should eliminate air pockets and insure good contact.
15. Protect exposed edges at doorways with an overlapping flange trim made of metal or rubber.

ANSWERS FOR CHECK-UP QUESTIONS

UNIT 10: COMMERCIAL OR CONTRACT INSTALLATIONS

1. Each commercial carpet installation is a custom job with its own specific set of conditions.

2. The manufacturer knows the product and can give advice on installation as well as precautions to observe.

3. The correct procedure for restretching buckled carpet when properly done, is much more costly than the original installation because it involves clearing out the space, loosening at least two sides of carpet and then putting it back into place again.

4.

Power stretcher	Needles
Knee kicker	Carpet thread
Smoothedge trimmer	Tweezers
Seam cement	Beeswax
Spreader	Chalk
Tackless stripper	Ankorite tool
Putty knife	Thimbles
Staples	Chalkline reel
Stapling hammer	Pinchbar or molding lifter
6 ft. steel tape	Nap shears
T-square	Carpet knife
Folding rule	Reverse curved knife
50 ft. linen tape measure	Stanley utility knife
Pipe wrench	Whetstone
Awls	Tackless strip shears
Hack Saw	Pliers
	Claw hammer
	Carpet hammer
	Carpet shears
	Nails and tacks

5. If an area requires more than one roll of carpet in length, the next roll must be cross-seamed to the first. Do not unroll the second roll until it is seamed to the first. Cross seams should be first sewn face-down, then taped.

INSTRUCTOR'S KEY TO TEST

UNIT 10:

1. Commercial power stretcher and planks
2. Puckering
3. Lay paneling or press board over affected area
4. C
5. B
6. G
7. A
8. F
9. E
10. D
11. False
12. True
13. True
14. False
15. True

ANSWERS TO CHECK-UP QUESTIONS

UNIT 11: ALTERNATE INSTALLATION PROCEDURE

1. Outside edge of carpet
2. In the direction of the warp
3. See page 5 in Manual.
4. On the floor, next to the last width of carpet
5. As long as needed, or until the tacks or sandbags can be removed

INSTRUCTOR'S KEY TO TEST

UNIT 11: ALTERNATE INSTALLATION PROCEDURE

1. A
2. C
3. B
4. C
5. A
6. C
7. C
8. E
9. E
10. A
11. C
12. False
13. False
14. True
15. True

ANSWERS TO CHECK-UP QUESTIONS

UNIT 12: CARPETING STAIRS

1. a) Use a flexible tape for measurement.
   b) Follow the entire distance of the stairway.
   c) On straight stairways, check figures by measuring a single step and multiply by the number of steps.
   d) Measure angular or spiral stairways along the outside or longest line.
   e) Suspended stairs should be measured around each tread.
   f) Add one inch for each step, allowing for extension to do padding and tucking ends behind the tackless strip.
   g) On straight stairways add an extra foot to permit shifting the carpet when wear becomes apparent.

2. a) Carpet is cut to fit each individual step (angular or spiral stairway) after padding and tackless strip are installed.
   b) On difficult stairways, make templates for stair position and top side out of Kraft paper. Use the template for cutting the carpet.
   c) Mark top of template.
   d) Place back of carpet on top of template.
   e) Pile should point down the stairs.

3. Margin on both sides
   a) Tackless strip placed of both the tread and riser in the crotch of each step
   b) Leave 1 1/3 thickness of carpet between the tackless strip on the riser and tread.
   c) Pins should point toward the corner of the crotch.
   d) Strip should be two inches less than carpet width.
   e) After installing tackless strip, cut padding to the same width as the strip.

4. Full width
   a) Use tackless strip in crotch, but have tackless strip same measurement as carpet width.
   b) Fasten tackless strip to both sides of the tread.
   c) Cut padding and fasten (like (a) but fit in comfines of the tackless strip).

5. Full width through and outside the balustrade over the step ends (same as for full width).

INSTRUCTOR's KEY TO TEST

UNIT 12: CARPETING STAIRS

1. Use a flexible tape.
2. Measure a single step and multiply by the number of steps in the complete stairway.
3. The outside or longest line
4. They should be measured completely around each tread.
5. One inch for each step
6. One foot
7. Failure to do so will produce cuts having the complementary angle.
8. Down
9. With a margin on both sides full-width through and outside the balustrade over the stepends suspended stairs
10. Approximately 1 1/3 the thickness of the carpet to be installed
11. Strips are fastened to underside of tread with pins facing each other and a space between strips equal to 1 1/3 thickness of carpet. Padding is fitted around entire tread.
12. Metal binder bars
13. Around the entire step
14. Moisten the carpet back.
15. It should be turned under.

ANSWERS TO CHECK-UP QUESTIONS

UNIT 13: MISCELLANEOUS INSTALLATION PROBLEMS

1. Since new and in-use carpets have different dimensional characteristics, the exposed edges may roll or bulge.

2. The curve of concave floors make it necessary to divide the floor into sections so that when the carpet is stretched, it will stay in contact with the floor.

3. Heavy traffic areas, such as doorways, can cause the carpet edge to roll up or stretch.

4. To remove a crease, moisten with water, stretch, tack and dry, face down.

5. It should be lifted off the pins and the two edges brought together with pile face to face. Roll carpet by starting at the two edges which have been brought together. Don't apply pressure to the bend. Bring to a carpet cleaner as soon as possible.

INSTRUCTOR'S KEY TO TEST

UNIT 13: MISCELLANEOUS INSTALLATION PROBLEMS

1. water marking
   water browing ***Any two of the three
   mildew
2. decorative metal strip
3. strip cement
4. floor
5. area of contact
6. moisten with water, strech, tackdown and dry
7. tacked down
8. False
9. True
10. True
11. True
12. False
13. True
14. False
15. False